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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,855	12/13/2001	Jimmy A. Tatum	V637-02310 US	7422

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EXAMINER

WOOD, KEVIN S

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/016,855

Applicant(s)

TATUM, JIMMY A.

Examiner

Kevin S Wood

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-35 and 37-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-35 and 37-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s).

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is responsive to the Applicant's Amendment filed 8 March 2004. Claims 23, 26, 32, 33, 34, 37, 38, 43 and 44 are amended. Claim 36 is cancelled and no new claims have been added. Claims 23-35 and 37-44 are pending in the application.

Response to Arguments

2. Applicant's arguments with respect to claims 23-31 and 33-44 filed on 8 March 2004 have been fully considered but they are not persuasive. The examiner has thoroughly reviewed the applicant's arguments, but firmly believes the cited references to reasonably and properly meet the claimed limitations.

The applicant's primary argument is that the Murata et al. reference (U.S. Patent No. 6,425,695 to Murata et al.) does not disclose an encapsulated package where the components are contained in an encapsulant. The examiner respectfully disagrees with this argument and interpretation of the Murata et al. reference. The examiner believes the Murata et al. reference clearly discloses an encapsulant or resin (28,78,228,278) that is used to package the optical components and form an optical module.

3. Applicant's arguments with respect to claim 32 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 23-26, 28, 29, 33, 34, 36 and 38-42 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,425,695 to Murata et al.

Referring to claim 23, Murata et al. discloses all the limitations of the claimed method. Murata et al. discloses a method for the communication of data, the method comprising the steps of: providing an optical interface (10) comprising at least two optical components (14,64,214,264) integrated into a common optical package; coupling communications equipment (142) together with the optical interface; and permitting bi-directional data communications between the communications equipment through the optical interface. Murata et al. also discloses that devices are encapsulated within a light blocking resin (28,78,228,278). See Fig. 1-11, along with their respective portions of the specification.

Referring to claims 24 and 25, Murata et al. discloses all the limitations of the claimed method. Murata et al. discloses that the communications equipment (142) may be a computer and a display. See Fig. 9, along with its respective portion of the specification.

Referring to claim 26, Murata et al. discloses all the limitations of the claimed method. Murata et al. discloses a method of providing an optical interface for enabling bi-directional communication, said method comprising the steps of: mounting at least two photonic components (214) onto a multi-element leadframe; and overmolding the at least two photonic components and the multi-element leadframe (213) with an encapsulant (228). Murata et al. also discloses that devices are encapsulated within a light blocking resin (28,78,228,278).

Referring to claim 28, Murata et al. discloses that the at least one photonic components comprises at least one photodetector.

Referring to claim 29, Murata et al. discloses a plurality of fibers (6). See the figures of the reference.

Referring to claim 33, Murata et al. discloses all the limitations of the claimed method. Murata et al. discloses a method for communication of data between a server and at least one client, the method comprising the steps of: providing an optical interface in association with at least one of the server (142) and the client (142), wherein the optical interface further includes at least two photonic devices (14) integrated as a common optical package (10); coupling the optical interface to at least one fiber optic cable (16,112,140); and permitting data communications between the server and the at least one client through the interface. Murata et al. also discloses that devices are encapsulated within a light blocking resin (28,78,228,278). Murata et al. does not specifically state that the electronic instruments (142) are a server and a client. However, Murata et al. does disclose that the electronic instruments may be computers

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and data communications devices. It is inherent that if the interface disclosed by Murata et al. can be used to couple two computers, then one of those computers can act as a server while the other acts as a client.

Referring to claim 34, Murata et al. discloses all the limitations of the claimed invention. Murata et al. discloses a system for communicating data between a central processing unit (CPU) and a display unit, the system comprising: a first optical component package (146) comprising a first group of at least two electro-optical components electrically connected to the CPU (142); a second optical component package (146) comprising a second group of at least two electro-optical components electrically connected to the display unit (142); and at least one optical fiber (140) connecting the first optical component package and the second optical component package. Murata et al. also discloses that devices are encapsulated within a light blocking resin (28,78,228,278). See Fig. 1-11, along with their respective portions of the specification.

Referring to claim 38, Murata et al. discloses all the limitations of the claimed invention. Murata et al. discloses that at least one semiconductor laser and at least one photodetector may be mounted on a multi-element leadframe (212) with a plastic overmolding (228) covering the multi-element leadframe.

Referring to claims 39 and 40, Murata et al. discloses that the optical component packages (10,146) include at least one lens (18).

Referring to claim 41 and 42, Murata et al. discloses that the encapsulant (28,228) acts as an alignment means in order to maintain the alignment tolerances between the plurality of optical fibers.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 27, 30, 31, 35, 37, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,425,695 to Murata et al.

Referring to claims 27 and 37, Murata et al. discloses all the claimed limitations, except Murata et al. does not specifically disclose that the surface emission lasers (14) are VCSELs. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize VCSELs as the surface emitting lasers, since it was known in the art that VCSELs are efficient and reliable light sources.

Referring to claims 30 and 35, Murata et al. disclose all the limitations of the claimed invention, except Murata et al. does not disclose that the fiber bundle (112,140) is a plastic fiber ribbon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an optical fiber ribbon as the optical fiber bundle since it was known in the art that fiber ribbons are specific type of fiber

bundle that allows the individual fibers to be organized so that the each fiber is easy to identify.

Referring to claim 31, Murata et al. discloses all the limitations of the claimed invention, except Murata et al. does not disclose that the plurality of optical fibers have fiber core diameters between 500 microns and 1mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize any suitable size of optical fiber, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Referring to claim 43, Murata et al. discloses a system for communicating data between a server and at least one client through an optical fiber interface, the system comprising: at least two photonic devices (14) integrated within a common package (10) and including an alignment means, wherein at least one fiber bundle (112,140) plastic optical fiber can be optically aligned to the optical fiber interface via the alignment means (18), wherein data communications are permitted between the server and at least one client through the optical fiber interface such that the optical fiber interface provides a highly integrated and flexible high bandwidth communications package suitable for display data communications. See Fig. 1-11, along with their respective portions of the specification. Murata et al. does not disclose that the fiber bundle is a plastic fiber ribbon. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an optical fiber ribbon as the optical fiber bundle since it was known in the art that fiber ribbons are specific type of

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fiber bundle that allows the individual fibers to be organized so that the each fiber is easy to identify. Murata et al. does not specifically state that the electronic instruments (142) are a server and a client. However, Murata et al. does disclose that the electronic instruments may be computers and data communications devices. It is obvious that if the interface disclosed by Murata et al. can be used to couple two computers, then one of those computers can act as a server while the other acts as a client.

Referring to claim 44, Murata et al. discloses that the photonic devices may include at least one laser and at least one photodetector, where the laser and photodetector is mounted on a multi-element leadframe (212) and overmolded with an encapsulant (228). See Fig. 10.

8. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,530,700 to Williams et al. in view of U.S. Patent No. 6,425,695 to Murata et al.

Referring to claim 32, Williams discloses a method for communication of data between a Central Processing Unit (CPU) and display monitor, the method comprising the steps of: providing a photonic package (5) containing at least one Vertical Cavity Surface Emitting Laser (VCSEL) (42); a photodetector (44); coupling the photonic package to at least one fiber optic ribbon cable (28); and permitting data communications between the computers. It is inherent that data communicated between a first computer to a second computer, through the fiber optic connector disclosed by Williams, can be communicated to the display of one of the computers.

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Williams discloses all the limitations of the claimed invention, except Williams does not appear to disclose the use of an encapsulant to package the VCSEL and photodetector. Murata et al. discloses an encapsulating resin used to package optical components together in a package for the purpose of sealing the optical components and preventing harmful moisture from getting to the components. Since Williams and Murata et al. are both from the same field of endeavor, the purpose disclosed by Murata et al. would have been recognized in the pertinent art of Williams. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize an encapsulant material to package the VCSEL and the photodetector, for the purpose of protecting them from harmful moisture.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KSW


AKM ENAYET ULLAH
PRIMARY EXAMINER